V. Summary of Analysis of the Management Situation

V. SUMMARY OF THE ANALYSIS OF THE MANAGEMENT SITUATION

A. Introduction

The Analysis of the Management Situation (AMS) is to provide an analysis and evaluation of current management direction, resource potential, and possible need for a change in current direction. During the AMS, resource supply potentials and outputs resulting from a continuation of current management direction were determined using various objectives, constraints, and assumptions in the National Forest planning model (FORPLAN). Limits in the capability to supply various resources were determined by establishing minimum and maximum production levels for single resources and meeting minimum management requirements. Estimates in projected use of resources were identified to assess demand for goods and services provided by the IPNF. In addition, production capabilities were determined for a set of multiple resource outputs that maximize present net value. This analysis established the benchmark levels required by national planning direction.

The AMS was designed in response to the National Forest Management Act Planning Regulations and Chief's direction of May 17, 1983. The major items addressed in this summary include:

1. A display of resource supply potential, including upper and lower limits.

2. A definition of Minimum Management Requirements (MMR) and an assessment of the opportunity costs associated with meeting the various MMR's.

3. An analysis of the opportunity costs associated with timber harvest rotations constrained by culmination of mean annual increment (CMAI) and nondeclining flow (NDF) versus the use of sequential upper and lower bounds.

4. An updated roadless area inventory to comply with the Ninth Circuit Court of Appeals Decision. The inventory now includes areas within unit plans that have approved Final Environmental Impact Statements.

Selected benchmarks were used to define the upper and lower limits for the production of each resource. Opportunity costs were determined by comparing incremental benchmarks with the Maximum PNV Benchmarks. The analysis offered insights to demand, projected use, upper and lower limit supply potential and economic efficiency. The Interdisciplinary Team considered this information when developing range of alternatives.

No FORPLAN run was made specifically to maximize range production. All benchmark runs and alternatives indicate a capacity to produce range two to six times greater than current or expected use. All alternatives were, therefore, formulated to retain permanent forage in existing allotments without creating new permanent forage areas. Sufficient transitory range is provided incidental to timber harvesting.

There is no benchmark specifically designed to maximize wildlife. Calculations were made which indicate the maximum elk summer range carrying capacity would be 22,400 elk per year. This carrying capacity was calculated with optimum cover forage ratio and spatial distribution with roads closed. Winter range was produced to provide for more than the necessary habitat to carry the summer herd through the winter months.

Undeveloped recreation opportunities, particularly primitive and semi-primitive experiences, are maximized under the minimum level management benchmark.

B. Purpose

The primary purpose for the Analysis of the Management Situation was to examine the capability of the IPNF to supply goods and services and to be able to provide decision makers with a reasonable range of alternatives to examine in developing a Forest Plan.

C. Minimum Management Requirements

1. Development Process

In response to October 1983, WO and RO direction to identify and evaluate MMRs, the Forest established a task force composed of representatives of the management team, staff specialists, district rangers, staff officers and planning team. Their charge was to examine proposals for MMR's and make recommendations for MMR's to the management team.

Background papers for MMR's provided by ID Team specialists contained the basis, background on the issue, and a recommendation which included alternatives. ID Team specialists were available during task force meeting for discussion on their areas of speciality.

The MMR Task Force also made contact with adjacent Forests to coordinate in areas of common concern. Examples of coordination include watershed/fish management with the Clearwater and Nezperce National Forests, grizzly bear requirements with the Kootenai National Forest and caribou management with the Colville National Forest.

As a final step, members of the MMR Task Force met with members of the RO PP&B staff to review task force recommendations.

2. Identification of MMR's by Resource Area

While there are special resource protection measures included in the FORPLAN model and planning process for all MMR's, there are eight areas of concern that were addressed by the MMR Task Force which deserve emphasis. Within the discussion of each of these resource areas, the minimum management requirement is identified, its National Forest Management Act (NFMA) legal base is addressed, and the form selected for meeting the requirement is specified as either a FORPLAN constraint, management practice, and/or management prescription.

a. Soils

The MMR for soils is that management activities will not significantly impair the long-term productivity of the soil and water resource. This requirement is in response to several acts of legislation, including MUSA, RPA, NEPA and NFMA. This requirement is included in all prescriptions through management practices. The vehicles for identifying these management practices are the Best Management Practices, which will be attached to our Forest Plan, and technical guides developed during the soil survey. These Practices are drawn from the current Forest Service Manual.

b. Caribou

The MMR for caribou is to provide the habitat that will support recovered populations. This is in response to the Endangered Species Act as caribou are classified under the Act. The MMR is in the form of management prescriptions applied to their habitat.

Two caribou habitat management prescriptions are used to achieve MMR. On critical caribou habitat (Alpine fir, <40% slopes), the prescription maintains the existing habitat conditions. On the less than critical habitat, timber harvest is permitted with the objective of improving age class distribution to benefit caribou habitat through regulated harvest. To achieve caribou habitat objectives, age classes would be distributed as follows: 1/3 old-growth, 1/3 mature sawtimber, and 1/3 immature timber. This will be accomplished by a second management prescription and FORPLAN constraint.

c. Grizzly Bear

Grizzly bear is also a threatened and endangered species. The MMR is designed to provide the habitat that will support a recovered population. This will be accomplished through the "Cumulative Affects Assessment" to determine if at least 70 square miles of security are being maintained within each bear unit (the approximate home range). This was modeled through a FORPLAN contraint to limit the amount of harvest disturbance that can occur within a bear unit each decade.

d. Old-Growth

The MMR for old-growth is to maintain minimum viable populations of old-growth dependent species. This will be accomplished by maintaining at least 10 percent of the Forest as old-growth and retaining up to 5 percent old-growth in each old-growth unit to assure adequate distribution. This MMR is the result of two NFMA requirements: (1) maintain minimum viable populations of all wildlife and fish species, and (2) provide for diversity of plant and animal communities. This will be accomplished in FORPLAN by assigning a management prescription that retains old-growth

characteristics until those areas can be replaced through non-timber prescription. Analysis of existing old-growth sites and compatible land use designations (wilderness, caribou, Wild & Scenic River and unsuitable timber lands) identifies existing sites that need to be retained. Analysis of the Forest's future condition identifies the seventh decade as the time when existing old-growth will be replaced and can be harvested.

e. Maximum Size of Harvest Units

The maximum size of harvest units will be 40 acres, with provisions for specific exceptions. This MMR is in accordance with direction given in NFMA and the Northern Regional Guide. The requirement is modeled as a FORPLAN constraint on the portion of an analysis area (AA) that may be harvested in one decade. To depict the 40-acre limit, timber harvest will be limited to 1/3 of roaded AA's and 1/2 of roadless AA's.

f. Visual Quality

The MMR for the visual resource will be to assign the visual quality objective (VQO) of maximum modification (MM) to all lands except the seen area from the St. Joe Wild and Scenic (W&S) River and the proposed Upper Priest River. This MMR is based on NFMA and the W&S River Act. The NFMA direction is that a VQO be assigned to all National Forest acres. The W&S Act required the development of a management plan, which established the VQOs for the seen area. Requirements are met with management practices contained in management prescriptions.

g. Watershed/Fish

Water quality management is being addressed in terms of fisheries habitat. The MMR is to provide habitat to maintain minimum viable fish populations. This requirement is based upon NFMA regulations 36CFR 219.19 and 219.27(a)(6). For modeling purposes, this MMR is represented by a FORPLAN schedule output constraint which limits the amount of harvest within identified fisheries streams. The objective is to maintain adequate spawning sites for minimum viable populations of fish. The constraint is based upon a correlation among acres of harvest and associated road construction, suspended sediment and loss of spawning sites due to infiltration of fines into the spawning gravels.

h. Riparian Areas

The requirement is to manage riparian areas to feature riparian dependent resources such as fish, water quality, maintenance of natural channels, and certain vegetative and wildlife communities, while producing other resource outputs at levels compatible with the riparian values. This MMR is based upon the application of Executive Orders dealing with floodplains and wetlands and NFMA regulations 36CFR 219.27(e). The MMR is

applied in the model through management prescription assignments. Riparian zones are identified as analysis areas, with compatible prescriptions applied (riparian and minimum level management). The riparian prescription involves limited timber harvest. Alternatively the minimum level management prescription offers no development and maintains the natural characteristics of the resources. Prescription selection dependent upon objectives of the alternatives.

Additional MMR's, such as a 5-year regeneration period, and road standards are inherent in the management prescriptions.

D. Description and Purpose of FORPLAN AMS Runs

Required FORPLAN runs of the Analysis of the Management Situation are identified with an asterisk.

***ANWO95:** Maximize present net value (PNV) using assigned values with nondeclining flow and culmination of mean annual increment (CMAI) rotations without MMR's.

***ASWOUT:** Maximize PNV (assigned values) with sequential upper and lower bounds and utilization standards without MMR's.

***ASMMUT:** Maximize PNV (assigned values) with sequential upper and lower bounds and utilization standards with MMR's. This is the monetary benchmark with assigned values displayed in the DEIS, as required by 36 CFR 219.12 (e)(1)(ii).

***ASMM95:** Maximum PNV assigned values with sequential upper and lower bounds and 95% CMAI rotations with MMR's.

***ANMMUT:** Maximize PNV (assigned values) with nondeclining flow and utilization standards with MMR's.

***ANMM95:** Maximize PNV (assigned values) with nondeclining flow and 95% CMAI with MMR's.

***MSMMUT:** Maximize PNV (market values) with sequential upper and lower bounds and utilization standards (economic rotations) with MMR's.

***MSMM95:** Maximize PNV (market values) with sequential upper and lower bounds and 95% CMAI rotations with MMR's.

***MNMMUT:** Maximize PNV (market values) with nondeclining flow and utilization standards with MMR's.

***MNMM95:** Maximum PNV (market values) with nondeclining yield and 95% CMAI with MMR's.

All runs beginning with the letters BM are designed to display a benchmark without one of the significant minimum management requirements (MMR's). This analysis enabled us to determine the opportunity cost of a particular MMR in relation to MMR's as a whole. For example, BMWOGZ displays a benchmark having all of the MMR's except grizzly bear. When results of this run are compared with an identical run that includes all MMR's (ASMMUT), the PNV increases from $2,569 million to $2,575 million. This shows that the opportunity cost of adding the grizzly bear MMR to all of the other MMR's is $6 million.

BMWOGZ: Maximize PNV (assigned values) with sequential upper and lower bounds, economic rotations, without the grizzly bear habitat MMR's.

BMWOCB: Maximize PNV (assigned values) with sequential upper and lower bounds, economic rotations, without the caribou habitat MMR.

BMWOOG: Maximize PNV (assigned values) with sequential upper and lower bounds, economic rotations, without the old-growth habitat MMR.

BMWOH2: Maximize PNV (assigned values) with sequential upper and lower bounds, economic rotations, without watershed/fisheries and harvest size limit MMR.

BMWOVS: Maximize PNV (assigned values) with sequential upper and lower bounds, economic rotations, without the visual quality MMR.

BMWOSC: Maximize PNV (assigned values) with sequential upper and lower bounds, utilization standards (economic rotations), without sediment constraints but including harvest size limit MMR's.

AMC: Minimum level benchmark identifies the resource production levels that would result for custodial management. Resource constraints not applicable.

BMMMCD: Maximize PNV (assigned values) under current direction with nondeclining flow and 95% culmination mean annual increment. This is the current direction benchmark required in 36CFR 219.12 (e)(2).

TSMM95: Maximize timber with sequential upper and lower bounds and CMAI rotations with MMR's.

TSWO95: Maximize timber with sequential upper and lower bounds and CMAI rotations without MMR's.

TNMM95: Maximize timber with nondeclining yield and CMAI rotations with MMR's.

E. Results of the AMS Analysis

The AMS provides an analysis of resource production potentials, supply and demand, and use and development opportunities. FORPLAN benchmark runs were used to help identify resource supply potentials, and tradeoffs. In addition, benchmark runs define the range of resource outputs available for alternative formulation. The following discussion focuses on individual resources with respect to supply potential, and use and development opportunities, and tradeoffs. For comparative purposes Table V-1 displays critical resource outputs for each AMS run.

1. Timber

a. Current Situation

Commercial timber sales on the IPNF have averaged 269 million board feet (MMBF) annually for the period 1976-1985. As a result of a massive effort to salvage dying whitepine, timber harvest peaked at 415 MMBF in 1964. With approximately two million acres of commercial forest land, the IPNF has potential to supply a significantly higher sustaining volume of timber products. Current standing sawlog volumes total 18.75 billion board feet on all productive lands. As of December 1986 IPNF had over 800 million board feet of uncut timber under contract. The cut has fallen short of the sell during recent years. Consequently, volume under contract has risen from 600 MMBF in 1978 to over 800 MMBF in 1986.

TABLE V-1
IPNF SELECTED RESOURCE OUTPUTS BY AMS RUN
(Average Annual Outputs)

OUTPUT or ACTIVITY	UNIT	DECADE	BASE	FORPLAN RUNS WITH IDENTIFICATION										FORPLAN RUNS WITH IDENTIFICATION									
				ANWO95	ASWOUT	ASMMUT	ASMM95	ANMMUT	ANMM95	MSMMUT	MSMM95	MNMMUT	MNMM95	BMMSA	BMWOGZ	BMWOCB	BMWOOG	BMWOH2	BMJOVS	BMMMCD	TSMM95	TSWO95	TNMM95	BMJOSC
				104AN1	104AS2	104AS3	104AS4	104AN3	104AN4	104MS3	104MS4	104MN3	104MN4	104BSA	104BGZ	104BCB	104BOG	104BH2	104BVS	104BCD	104TSM	104TSW	104TNM	104BPW
Allowable Sale[a]	MMBF	1	251	604	560	363	364	385	420	363	400	384	420	358	379	369	385	440	369	297	521	593	614	365
Quant. (Dec. 1)		2		604	651	454	455	609	551	454	501	609	552	448	473	461	481	551	461	532	650	741	615	456
Projected Sales		3		604	511	567	568	618	551	567	523	618	552	559	556	576	601	499	577	532	647	926	615	571
Schedule		4		604	639	709	711	618	622	709	654	618	622	699	694	720	751	623	721	591	808	758	615	713
(Decades 2-5)		5		604	799	835	764	617	622	834	817	618	622	823	815	900	785	779	865	591	606	568	615	827
Long Term Sustained Yield	MMBF			612	498	455	558	618	622	455	565	618	622	449	455	462	456	454	455	591	634	689	636	455
Suitable Timber	M AC			1805	1801	1777	1776	1831	1799	1779	1783	1835	1800	1756	1778	1803	1779	1775	1777	1748	1956	1999	1956	1777
Elk Winter	M AN	1	6.3	7.8	7.8	7.8	7.8	7.8	7.8	7.8	7.8	7.8	7.8	7.8	7.8	7.8	7.8	7.8	7.8	7.9	8.1	7.7	7.9	7.8
		2		14.5	14.5	14.2	13.8	14.2	14.6	14.0	14.2	14.2	14.6	14.2	14.2	14.2	14.6	14.3	14.2	16.5	23.2	19.1	24.8	14.2
		3		21.2	21.5	17.7	17.7	19.8	19.9	17.8	18.7	19.8	19.9	17.7	17.7	17.8	18.4	20.1	17.8	22.8	31.1	27.3	31.7	17.8
		4		21.6	21.8	18.7	18.6	20.0	20.6	18.9	18.8	20.0	20.6	18.7	18.7	18.8	19.6	20.2	19.4	25.5	28.1	29.3	26.4	18.7
		5		18.1	18.0	17.9	17.6	17.6	16.9	18.0	17.0	17.7	16.9	17.9	18.2	17.6	18.8	17.1	18.4	21.8	28.4	33.3	19.4	18.1
Elk Summer	M AN	1	9.2	13.4	13.5	13.2	13.2	13.0	12.8	13.2	12.9	13.0	12.9	12.9	13.3	13.1	13.1	13.5	13.1	13.2	11.4	11.9	11.1	13.2
		2		12.5	12.3	12.4	12.6	12.0	11.7	12.4	11.9	12.0	11.9	12.2	12.5	12.4	12.4	12.6	12.4	12.5	9.9	10.0	9.6	12.5
		3		11.8	11.7	11.9	12.1	11.4	11.4	11.9	11.6	11.4	11.6	11.7	12.0	11.8	11.8	11.9	11.9	12.0	9.5	9.1	9.2	11.9
		4		11.5	11.4	11.6	11.8	11.3	11.4	11.6	11.6	11.2	11.6	11.4	11.7	11.6	11.5	11.6	11.6	11.9	9.3	8.8	9.1	11.6
		5		11.4	10.9	11.2	11.6	11.2	11.2	11.2	11.1	11.1	11.1	11.0	11.3	11.2	11.2	11.2	11.1	10.8	8.9	8.6	8.8	11.3
Recreation-Unroaded	M AC			-0-	-0-	-0-	-0-	-0-	-0-	-0-	-0-	-0-	-0-	-0-	-0-	-0-	-0-	-0-	-0-	89.9	-0-	-0-	-0-	-0-
Wilderness	M AC			-0-	-0-	-0-	-0-	-0-	-0-	-0-	-0-	-0-	-0-	-0-	-0-	-0-	-0-	-0-	-0-	131.0	-0-	-0-	-0-	-0-
Visual-Retention	M AC			1.4	1.4	88.9	88.9	88.9	88.9	88.9	88.9	88.9	88.9	88.9	88.9	88.9	88.9	88.9	1.4	120.6	88.9	1.4	88.9	88.9
Partial Ret.	M AC			0.1	0.1	20.1	20.1	20.1	20.1	20.1	20.1	20.1	20.1	20.1	20.1	20.1	20.1	20.1	0.1	129.1	20.1	0.1	20.1	20.1
Road Construction Total	MILES	1	182	369	324	286	286	343	357	285	325	342	357	280	212	283	299	285	290	337	560	571	601	285
		2		328	330	248	249	340	310	249	285	339	311	244	234	247	259	303	252	264	307	282	284	249
		3		253	193	190	193	228	184	190	177	229	185	187	204	190	199	206	186	180	126	227	118	191
		4		147	140	163	170	142	145	163	154	144	146	161	199	164	172	144	163	133	130	130	118	166
		5		103	149	189	153	114	108	182	158	114	109	179	268	193	171	166	192	94	60	39	62	182
Road Construction -Capital Investment	MMS	1	2.1	2.2	2.0	2.9	3.0	3.4	4.1	3.0	3.3	3.4	4.1	2.1	2.8	3.1	3.0	1.8	3.0	2.1	8.4	11.1	14.3	2.7
		2		3.2	3.8	2.9	2.4	3.6	3.6	2.9	3.5	3.6	3.6	2.8	3.0	2.7	3.0	3.2	2.9	3.0	4.6	3.9	4.4	2.9
		3		2.3	1.8	1.8	1.9	1.9	1.6	1.8	1.5	2.0	1.6	1.8	1.9	1.7	1.9	2.5	1.6	1.8	1.4	2.2	3.3	1.8
		4		0.7	0.6	0.7	1.4	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.8	0.6	0.7	0.7	1.2	1.0	0.9	0.7
		5		0.8	1.0	1.3	1.1	1.2	1.2	1.3	1.4	1.2	1.2	1.3	1.4	1.4	1.3	1.3	1.2	0.8	1.2	2.1	1.2	1.4
Waterabed/Fish				b>	b>	MVP c>	MVP	MVP	MVP	MVP	MVP	MVP	MVP	MVP c>	MVP	MVP	MVP	b>	MVP	MVP	MVP	b>	MVP	b>
Present Net Value	MMS			2772	2855	2568	2513	2483	2458	2378	2324	2323	2288	2549	2599	2661	2606	2616	2628	2043	2053	2327	2133	2571
Forest Budget	MMS	1	120.3[d]	29.9	28.5	27.4	27.3	30.1	31.1	27.3	28.9	29.9	31.1	27.0	27.7	27.1	28.0	26.7	27.6	47.8	66.0	69.8	74.2	27.1
		2		29.9	31.2	25.5	25.0	30.7	29.2	25.5	27.6	30.7	29.2	25.1	20.8	25.4	26.2	28.4	25.6	29.7	36.2	37.5	34.8	25.6

b> = "Green" portion only
= No constraint.

MBP[c] = Minimum viable population.

[d] = FY 1980-83 average in 1978 dollars.

b. Demand

Total annual harvest from all ownership in the five northern Idaho counties corresponds closely to the lumber production cycle in the same area. The IPNF has provided 40-60 percent of the total harvest for the last ten years. Due to log imports into the area, from Montana and northeast Washington, the IPNF supplied only 31 percent of the roundwood volume receive by local mills in 1979 and 1980 (218 and 182 MMBF, respectively). The capacity in 1980 was 833 since then it has dropped to about 800 MMBF annually. The amount of state and privately owned commercial forest land in northern Idaho has fallen 6 percent since 1964 (IPNF Planning Record 1922.16). Harvest on private lands accelerated in the the early 1980's and there is concern that current harvest levels can not be supported indefinitely (A Report on Idaho's Timber Supply, USDA, Forest Service, February, 1987). Therefore, it is assumed that the demand for IPNF timber will equal or exceed the projected supply under all alternatives and the Maximum PNV Benchmark. See the FEIS Chapter III, Section B.8 for a more detailed discussion.

c. Supply Potential

The highest levels of timber production occur with runs that include the CMAI and NDF requirements. The maximum possible allowable sale quantity for the first period is 614 MMBF. With maximum PNV objectives the greatest first period volume is 420 MMBF. Without minimum management requirements the maximum volume attainable while maximizing PNV is 604 MMBF. Using utilitzation standards instead of CMAI reduces first period harvest by 35 MMBF, but long-term sustained yield (LTSY) by only 4 MMBF. Including MMRs reduces first period harvest under NDF/CMAI by 184 MMBF, but increases LTSY by 10 MMBF, the result of more intensive regeneration prescriptions.

Long-term sustained yield generally varies with the suitable timber base. LTSY varies from a minimum of 455 MMBF under MMR's, utilization standards, and sequential timber bounds to 689 MMBF under a maximum timber without MMR, but including harvest at CMAI, and sequential timber bounds. In all cases harvest at CMAI provides a higher LTSY than harvest at utilization standards (economic rotations), and NDF also provides a higher LTSY than a schedule allowed to vary by decade. Suitable timber lands vary by about 60,000 acres, depending on the use of MMR's and/or utilization standards. The largest suitable land base results from the use of NDF, MMR's, and utilization standards, while the lowest acres result from the use of sequential timber bounds.

Of the MMR's, the 40-acre harvest unit has the highest tradeoff in first period harvest, amounting to almost 80 MMBF without a significant change in LTSY or suitable land base.

2. Elk Habitat Potential

a. Current Situation

Rocky Mountain elk occupy most of the IPNF lands. Highest populations are found in the St. Joe and upper Coeur d'Alene River drainages. Approximately 9,000 elk[1/] used IPNF summer range lands in 1980, with 1,300 being harvested during 60,000 hunter days. The current summer carrying capacity for elk on the IPNF is estimated at 13,600 animals.

On the northern Idaho forests, elk exhibit distinct habitat perferences, both daily and seasonally (Irwin 1978). They are extremely adaptable to numerous vegetative situations and may thrive using one of several types. However, their preferred summer habitat appears to be forested habitat interspersed with openings, such as natural meadows or clearcuts where they forage. Brushfields created by wildfires in the early part of the century provide the majority of forage for wintering elk.

b. Demand

The Idaho Fish and Game goal for the next decade is for a 50 percent increase in the current elk population.

c. Supply Potential

Elk population targets for 1990 as recommended by the Idaho Fish and Game Department (IDF&G) is to provide habitat that would allow for a 50 percent increase in the elk herd.

Neither elk winter range nor elk summer range was used as constraints in any of the benchmark runs. Elk habitat provided is the result of the other activities, primarily timber harvest.

All benchmarks provide winter habitat in the first period for approximately 7,800 elk, a 24 percent increase. The future decades provide greater potential because of accumulated effects of harvest, with the higher the harvest level the higher the potential. By the fourth decade elk winter range potential varies from a 295 percent increase to a 465 percent increase. The Forest could exceed IDF&G summer range goals by over 50 percent and provide nearly double the needed winter range.

Except for the maximum timber benchmark, the summer elk habitat for the fifth period (the low point) for all runs will provide for a 22 percent increase in elk numbers. The maximum timber benchmark will decrease the carrying capacity to about 95 percent of existing herd size.

1/ Population estimates have been revised by the Idaho Fish and Game Department. The estimated population figures are used for comparison purposes.

3. Recreation

a. Current Situation

The IPNF has 91 developed recreation sites which can provide 602,000 recreation visitor days (RVD) annually. The fiscal year 1980 recorded use at these recreation sites was 575,800 RVD's.

The IPNF has the ability to provide a variety of recreation opportunities--primitive, semi-primitive nonmotorized, semi-primitive motorized, roaded natural, and rural. Needs of the dispersed recreationists could be met until at least the year 2030 if specific roadless areas remain unroaded. Extensive roading could limit the possibility of meeting the projected demand for primitive, semi-primitive nonmotorized (SPNM), and semi-primitive motorized (SPM) recreation opportunities.

b. Demand

The projection for developed recreation use is 1,259,700 recreation visitor days per annum on the IPNF by the year 2030. This use level would occur in the roaded natural and rural recreation class areas. Existing facilities would not support projected developed recreation use.

The projected use or demand for recreation on the Idaho Panhandle National Forests was developed from our interpretation of the Pacific Northwest River Basin Commission's Regional Recreation Data Program, 1975. This process is explained in detail in Appendix BB, which is available upon request.

The demand on the Idaho Panhandle National Forests is a projection of the use report in 1980. The use for the base year 1980 is projected into the future based on the Pacific Northwest River Basin Commission's recreation demand projections. It is assumed that the use on the IPNF will continue to increase and that all providers of recreation opportunities will continue to provide the same proportion of the demand as they are now. Therefore, the IPNF will provide the same demand proportions in the future as it is in 1980.

In relation to overall recreation in northern Idaho, the 1977 Idaho State Comprehensive Outdoor Recreation Plan (SCORP) indicated that the IPNF should be supplying 40 percent of the outdoor recreation needs for northern Idaho. State and private lands within and adjacent to the IPNF boundary play an important part in supplying developed recreation sites.

Dispersed recreation use as measured in RVD's is expected to increase 80 to 90 percent by the year 2030 if the opportunities are available. Table V-2 records projections in recreation use by the Recreation Opportunity Spectrum (ROS) Class through 2030.

Fishing demand is high on all the lakes and rivers and some of the streams on the Forest. In 1980, the IPNF provided about 104,300 fishing RVD's. Since 1967 fishing pressure has been increasing at an average rate of three to five percent per year. During the same period, overall angler success rates have dropped from an average of 0.5 to less than 0.1 trout per hour. Fishing RVD's are included in dispersed recreation.

Table V-2

IPNF PROJECTIONS OF RECREATION USE
BY ROS CLASS
(DEMAND)
(M RVD)

ROS Class	1980	1990	2000	2010	2020	2030
Primitive	4.6	5.1	5.7	6.7	7.3	8.3
Semi-Primitive NonMotorized	28.2	31.6	35.3	40.4	45.4	50.5
Semi-Primitive Motorized	90.7	104.2	116.6	133.4	149.7	166.2
Roaded Natural and Rural	913.1	1086.5	1219.4	1319.7	1562.1	1733.3
Total Dispersed Use	1036.6	1227.4	1377.0	1572.2	1764.5	1958.3
Developed Recreation in Roaded Natural and Rural	578.8	691.9	808.2	961.7	1109.6	1259.7
Total Use	1612.4	1919.3	2185.2	2533.9	2973.6	3218.0

c. Supply Potential

Semi-primitive motorized (SPM) recreation is the critical component of the recreation resource. The maximum SPM potential would be 299,000 RVD's after five decades, compared to a projected use of 166,000 RVD's.

Potential developed recreation sites would be developed at a rate sufficient to keep slightly ahead of projected use. In the first decade a developed recreation output of 723,000 RVD's compared to an existing use of 576,000 could be achieved. All inventoried sites would be developed by the end of the fifth decade. Total dispersed recreation potential is estimated at 14,253,200 RVD's, almost 14 times current use. The roaded natural component of dispersed recreation would provide most of the excess. Primitive and semi-primitive nonmotorized recreation would be provided for adequately in proposed wilderness areas.

4. Wilderness and Roadless Areas

a. Current Situation

The roadless resource on the Forest includes 853,000 acres covering 48 areas. Recent congressional action designated 9,440 acres of wilderness on the IPNF in Washington State. No additional roadless areas in Washington are considered for wilderness. Less than one percent of the Forest is in wilderness, but 34 percent in roadless and undeveloped. Appendix C of the DEIS contains details on the site specific characteristics of the roadless areas considered for wilderness.

b. Demand

The 1980 RPA objective for wilderness in the IPNF is 144,000 acres. The Idaho Wildlife Federation recommendation for wilderness is 390,000 acres. In order to meet semi-primitive motorized recreation demand 320,000 acres would have to be designated for roadless management.

c. Supply Potential

The maximum wilderness potential is 853,041 M acres[2/] or 34 percent of the Forest.

5. Range

a. Current Situation

Current annual grazing use is 7,000 animal unit months (AUM) on lands administered by the IPNF with an associated use of 3,500 AUMs on private lands within the Forests allotments. Existing use of the 58 grazing allotments is by cattle and horses with the exception of a few goats. Most of the allotments include private, industry, and intermingled National Forest lands. A few are almost exclusively National Forest lands. Permits range in size from three goats and one cow to 200 head of cattle.

b. Demand

The Northern Regional Guide states AUM production goals for the IPNF. These are as follows:

Decade 1	Decade 2	Decade 3	Decade 4	Decade 5
13,500	14,000	16,000	18,000	20,000

2/ Does not include approximately 5,800 acres recently acquired in the Scotchman Peaks and Mallard-Larkins roadless areas as a result of a land exchange.

c. Supply Potential

No FORPLAN run was made specifically to maximize range production. All benchmarks and alternatives indicate a capacity to produce range two to six times greater than current use of 7,000 AUM's. Range forage potential is maximized by providing transitory range on cutover timberlands.

6. Road Construction

a. Current Situation

In the last few years the annual road construction program has resulted in approximately 190 miles of new roads and 170 miles of existing roads reconstructed. Annual capital investment expenditures for road construction peaked at $2.1 million in 1980. Most of the roads are constructed to access timber resources. Approximately one-third of the transportation system is currently developed. Table V-3 summarized the road and trail situation on the Forest.

Table V-3

IPNF ROADS AND TRAILS

Type	Miles Maintained	Miles not Maintained	Miles
Aterial Roads	700		
Other Maintained Roads	5300		
Non-Use/Jeep Roads		3500	
Existing Trails	1984[a]		
Planned Trails			132
Snow Trails	875[b]		

[a] Includes 199 miles of National Recreation Trails.
[b] Mainly on existing roads.

b. Demand

Maintaining or increasing the current timber output requires a substantial increase in road building activity. As discussed in Section G, Need/Opportunity for Change From Current Direction, to improve both watershed conditions and age-class distribution while maintaining the harvest level access must be provided to suitable lands that are currently unroaded.

c. Supply Potential

Total annual road construction in the first two decades varies from a ten percent increase over current to three times the current annual construction. The amount of capital investment varies by the use of MMR's and the level of timber harvest.

Of the PNV benchmarks, the minimum capital investment for the first decade is $2.0 million for the benchmark without MMR's, CMAI, or NDF, and the maximum is $4.1 million for the benchmark with NDF, MMR's, and CMAI. The maximum timber runs require considerably more capital investment to provide the higher volumes, with the highest run requiring $14.3 million.

F. Opportunity Costs

1. Present Net Value

PNV varies with the constraint level of the benchmark. Of those runs that maximize PNV the runs vary from $2,855 million for the benchmark without MMRs, NDF, or CMAI to $2,043 million for the current direction benchmark (BMMMCD).

2. Opportunity Cost of Minimum Management Requirements

The benchmark used for the base in the opportunity cost calculation is ASMMUT. The increase in PNV obtained by removing each MMR is the opportunity cost. Table V-4 illustrates the opportunity cost for selected resources. The opportunity cost of the MMRs is relatively low; it varies from 0 to 3.5 percent. Resource tradeoffs are also insignificant (for example, LTSY varies by only 1.5 percent). However, in the alternatives there will be more resource constraints - wilderness, developed recreation, NDF, CMAI - increasing the resource tradeoffs of managing for MMR's.

The proximity constraint, restricting cutting units to 40-acres, has the greatest influence on first decade harvest and capital investment dollars.

Table V-4

Opportunity Cost Comparisons of Minimum Management Requirements

Benchmarks		ASMMUT	BMWOGZ	BMWOCB	BMWOOG	BMWOH2	BMWOSC	BMWOVS
Outputs	Units	Base	Without Grizzly	Without Caribou	Without Old-growth	Without 40-Acre Harvest Unit Limits	Without Sediment	Without Visuals
Timber (ASQ)*	MMBF	363	379	369	385	440	365	369
Suitable Acres	M Acres	1777	1778	1803	1779	1775	1777	1777
Budget	$ MM	27.4	27.7	27.1	28.0	26.7	27.1	27.6
Capital Investment	$ MM	2.9	2.8	3.1	3.0	1.8	2.7	3.0
PNV	$ MM	2569	2575	2662	2607	2617	2572	2629
Opportunity Cost	$ MM	0	6	93	38	48	3	67

* "Green" portion only

3. Opportunity Cost of NDF and CMAI

Nondeclining flow (NDF) has a greater affect on PNV, budget, and timber output than culmination at mean annual increment (CMAI). When CMAI and NDF are combined there is a greater effect on timber output (and therefore budget) than when they are considered separately. Managing timber for CMAI and NDF adds 16 percent more volume to the first decade harvest and 37 percent to the long-term sustained yield. Managing for CMAI and NDF decreases the PNV by five percent and increases budget by 14 percent.

Table V-5 illustrates relationships involved when the four maximum PNV benchmark runs with minimum management requirements and assigned values are constrained by CMAI and NDF.

Table V-5

Opportunity Costs of Timber Flow Constraints
(85% CMAI and NDF)

		Utilization Standards (Economic Rotation)		95% CMAI	
Benchmarks	Units	Sequential Bounds a> ASMMUT	NDF ANMMUT	Sequential Bounds ASMM95	NDF ANMM95
Timber	MMBF	363	385	364	420
LTSY	MMBF	455	618	558	622
Suitable Acres	M Acre	1777	1831	1776	1799
Budget	$ MM	27.4	30.1	27.3	31.1
Capital Invest.	$ MM	2.9	3.4	3.0	4.1
PNV	$ MM	2569	2484	2514	2459
Opportunity Cost	$ MM	Base	85	55	110

a> Sequential bounds - Restrictions on harvest such that in subsequent decades the harvest does not vary more than 25 percent above or below the previous decade harvest.

G. Need/Opportunity For Change From Current Direction

During the Analysis of the Management Situation, as benchmarks were analyzed in light of the identified issues and concerns and realistic resource potentials estimated, the Forest identified a number of ways to increase economic efficiency and to balance economic efficiency with nonpriced components of net public benefits. Opportunities for change are summarized below by resource.

There is an opportunity, but not a demand, for a large scale increase in forage production for domestic livestock. The Forest is capable of producing significantly more livestock forage than is presently used by creating forage in timber management areas. Although there is some

interest for increased use of transitory forage produced by timber harvest activities, major increases in livestock use could cause significant adverse impacts on watersheds, young timber stands, and some wildlife. Management costs associated with herding and fencing generally exceed benefits obtained from additional forage made available.

There is a need for change to achieve the best combination of land uses. Some highly productive areas are currently under utilized. The analysis identified practices that can improve management quality. Deferring harvest and road building activities in several drainages for a 10-year period could result in an overall improvement in water quality. The amount of open roads, which are primarily a result of timber harvest activities, is directly correlated to elk population trends. Timber harvest levels and elk populations could be improved by redesignating some suitable timber land to nontimber uses if costs of timber production exceed benefits. Continuation of current management would reduce old-growth habitats throughout the Forest by the fifth decade.

The Forest is capable of providing opportunities which exceed expected use for all types of semi-primitive recreation. There are conflicts, however, between timber harvesting and semi-primitive unroaded recreation. As unroaded areas are developed, the opportunity to provide unroaded recreation diminishes. Continuation of current management would meet projected recreation use in the semi-primitive setting except for motorized use. Additional land would have to be designated to unroaded recreation to meet semi-primitive use projected for the year 2030.

Existing developed sites would not provide for the projected developed recreation use past the first decade. Additional available sites would have to be developed to meet projected developed recreation use in the future.

The IPNF has potential to protect and enhance habitat for all resident wildlife species. Conflicts exist among some key species, centering primarily on the effects of timber sales and roads on wildlife habitat. Elk are both positively and adversely affected by timber harvesting activities. Carefully planned timber sales can maintain and improve winter habitat. However, efficient timber harvesting is generally dependent upon roads; summer elk populations decrease as a result of open roads in their habitat. There is opportunity to increase elk populations 50 percent by 1990 to meet or exceed the Idaho Fish and Game Department (IDF&G) goals by reducing mileage of open roads. In addition, regulation changes within the purview of IDF&G could also increase populations.

The mountain caribou is protected under the Threatened and Endangered Species Act of 1973 and is known to occupy only small portions of the Idaho Panhandle and Colville National Forests. Analyses indicate that sufficient habitat exists on the IPNF to achieve minimum population objectives. However, this will require cooperation on an international level; the current herd of less than 25 animals migrates between the United States and Canada. Sufficient habitat for minimum caribou populations is assured under Minimun Management Requirements.

The grizzly bear is classified as a threatened species and occupies several areas in the northern portion of the Forest. There is sufficient habitat to provide for recovered population needs. The major opportunity for protecting the bear is to reduce the opportunity for human encounter. This can be done by minimizing the miles of open road in identified habitat in accordance with meeting minimum management requirements of grizzly bear habitat.

The Forest cooperates with the IDF&G in managing an abundance and diversity of lake, river and stream fish populations. The low management emphasis and high angler demand currently existing for this resource has resulted in reduced river, lake and stream trout populations. Current management needs to be modified to alter this situation. Cooperative management plans need to be developed with the IDF&G to determine compatible levels of angler access, fishing restrictions, and stocking. Reduced sedimentation and angler access in needed in some areas. A greater emphasis on habitat rehabilitation and improvement work is also needed if significant improvements are to be realized.

Some watersheds are producing sediment in excess of Forest standards. Current management direction needs to be changed in order to reduce sediment production to acceptable levels. This will be done primarily through scheduling of resource management activities such as timber sales so that sediment producing activities are not concentrated in a few drainages. By "spreading out" these activities, natural vegetative recovery will generally keep sediment production at acceptable levels. In addition, investments in watershed rehabilitation and modified management practices can be used to reduce sediment production.

Lack of access to timber stands in productive, unroaded areas is a major problem on the Forest. Harvesting has been concentrated and programmed sale objectives have been met on approximately two-thirds of the IPNF's suitable lands. Consequently, a number of watersheds are producing sediment in excess of Forest standards. Also, long-term regulated Forest objectives can only be obtained by improving age-class distribution throughout the Forest. Past and current concentration of harvest in mature and overmature stands has contributed to the problem of meeting long-term age-class distribution objectives.

To improve both watershed conditions and age-class distribution, access must be provided to suitable lands that are currently unroaded. Many of these area are comprised of immature timber stands. Initial timber sales would generally be unable to pay for all road construction, although the discounted value of timber sales over the long-term should exceed the discounted value of all management costs, including road costs. Significant increases in appropriated funds would be needed to provide the necessary access roads.